

R E M A R K S

Claim Amendments

Claim 1 was amended to include the features of claim 3.

Claim 9 was amended to delete nitrides and carbonitrides.

Claim 10 was amended to revert to originally claimed terminology.

Claim 20 was amended to delete an optional feature.

Rule 116

With respect to Rule 116, entry of this Amendment is respectfully requested, since the amendments involve features set forth in the claims prior to the final rejection.

Allowable Subject Matter

Applicants are pleased to note that claims 17, 22 and 24 to 29 were allowed (see item no. 21 on page 3 of the Office Action).

Applicants are also pleased to note that claim 20 would be allowable if rewritten to overcome the 35 USC 112, second paragraph rejection (which is discussed hereinbelow) (see item no. 22 on page 8 of the Office Action).

Rejection Under 35 USC 112, First Paragraph

Claim 10 was rejected under 35 USC §112, first paragraph, for allegedly failing to comply with the "written description requirement" for the reason set forth in item no. 1 on page 2 of the Office Action.

As discussed above, claim 10 was amended to revert to originally claimed terminology. This amendment was made to avoid the 35 USC 112, first paragraph rejection. Regarding the diametral pitch that was previously recited in claim 10, applicants draw the Examiner's attention to pages 15 to 20 in applicants' AMENDMENT UNDER 37 CFR 1.111 filed March 27, 2009 and to page 12 of applicants' SUPPLEMENTAL AMENDMENT UNDER 37 CFR 1.111 filed April 8, 2009. Applicants respectfully submit that the previously claimed terminology recited in claim 10 did not introduce new matter.

Withdrawal of the 35 USC 112, first paragraph rejection is respectfully requested.

Rejection Under 35 USC 112, Second Paragraph

Claims 9 and 20 were rejected under 35 USC §112, second paragraph, for the reasons set forth in item nos. 4 and 5 on page 2 of the Office Action.

Claims 9 and 20 were amended hereinabove to avoid the 35 USC 112, second paragraph rejection.

Withdrawal of the 35 USC §112, second paragraph rejection is respectfully requested.

Obviousness Rejection Under 35 USC 103

Claims 1, 3 to 15 and 23 were rejected under 35 USC 103 as being unpatentable over EP 095 723 in view of the English-language abstracts of JP 406025736 or JP 360162726. The reasons for this rejection are set forth in item nos. 10 to 20 on pages 5 to 8 of the Office Action.

It was admitted in the Office Action that a Cr concentration of 2.5 to 10 wt% in the cementite ((Fe, Cr)₃C), as recited in applicants' claim 1, is not taught by the prior art.

It was also admitted in the Office Action that a martensite parent phase containing 0.25 to 0.8 wt% solid-dissolved carbon as recited in applicants' claim 1, is not taught by the prior art.

It was further admitted in the Office Action that EP 095 723 does not teach prior austenite grains having an ASTM grain size No. 10 as recited in applicants' claim 6.

In item 14 of the Office Action, it was asserted that since the prior art steel is hardened at a high temperature range of 930 to 1,100°C, a martensite parent phase containing 0.25 to 0.8 wt% solid-dissolved carbon as recited in applicants' claim 1, would be expected. It is noted that paragraph [0043] of EP 095 723 discussed a carburization temperature which is not a quenching temperature. Therefore, the above feature would not be expected.

In addition, according to applicants' claim 1, the cementite has an average particle diameter of 0.1 to 1.5 μm , which is crucial because as discussed in the paragraph bridging pages 21 to 22 of the specification, this particle size provides advantageous effects such as:

- (1) the rolling contact fatigue strength is improved;
- (2) the strength of a gear or the like for withstanding bending stress is improved; and
- (3) cementite breakage by shot peening can be avoided.

Withdrawal of the 35 USC 103 rejection is therefore respectfully requested.

Obviousness-Type Double Patenting Rejection

Claims 1, 3, 5, 7 to 15 and 23 were provisionally rejected on the ground of obviousness-type double patenting as being unpatentable over claims 1 to 13 of copending application Serial No. 10/984,833 for the reasons set forth on pages 3 to 4 of the Office Action.

A TERMINAL DISCLAIMER, which identifies application Serial No. 10/984,833, is being filed concomitantly herewith.

Withdrawal of the obviousness-type double patenting rejection is thus respectfully requested.

Reconsideration is requested. Allowance is solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

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Respectfully submitted,



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Enc.: TERMINAL DISCLAIMER